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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/517,234	03/02/2000	Jie Liang	TI-29011	4622

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EXAMINER

DO, ANH HONG

ART UNIT PAPER NUMBER

2624

DATE MAILED: 10/24/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.  
09/517,234

Applicant(s)  
Liang

Examiner  
Anh Hong Do

Art Unit  
2624



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_ 6) ☐ Other:

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## DETAILED ACTION

### *Claim Rejections - 35 U.S.C. § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1-5 are rejected under 35 U.S.C. 102(e) as being anticipated by Dube (U.S. Patent No. 5,923,785).

Regarding claims 1 and 2, Dube discloses:

(a) wavelet transforming a portion of a digital image into hierarchical trees of coefficients (col. 6, lines 6-28, teaches wavelet transform of a digital image into subbands representing transform coefficients, which are represented by hierarchical trees);

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(b) for a first tree of said hierarchical trees and for a first cluster children nodes 52a, 52b, and 52c derived from a first parent node 50 of said first tree (Fig. 2B), after encoding said first parent node 50 encode a value and tree indication for each of the children nodes 52a, 52b, and 52c in said first cluster (col. 5, lines 26-28, teaches coding the first tree of the wavelet transform in a depth-first order, which evaluates all ancestors or descendants before evaluating the siblings of the coefficients as disclosed in col. 5, lines 13-16), wherein (i) said value and tree indication are skipped when said encoding of said first parent node so indicates (col. 10, lines 25-29, teaches the encoding process should proceed to the next sibling when the encoding of said first parent node indicates there is no grandchildren are significant); (ii) said tree indication for a first of said children nodes indicates significance of descendant nodes of said first children nodes (col. 10, lines 13-16, teaches the tree indication indicates the significance of the descendant nodes); (iii) said value for a first of said children nodes indicates significance of said first children nodes (col. 10, lines 22-25, teaches the value indicates the significance of the child nodes); (iv) said value and said tree indication for one of said children nodes are skipped when determinable from encoding of the other of said children nodes of said cluster (col. 10, lines 25-29); (v) said tree indication is omitted if said children nodes in said first cluster have no descendant nodes (col. 10, lines 25-29, teaches the tree indication is omitted when there is no descendant nodes are significant);

(c) and (d) repeating foregoing steps for a second, third,..., and Nth cluster of children nodes and for a second, third,..., Mth tree of said hierarchical trees (col. 5, lines 28-31 teaches an iteration is generally defined as one of a plurality of repeated loops through an evaluation

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sequence of the coefficients of a wavelet transform; and Fig. 2B shows repeating the foregoing steps for a second cluster of children nodes 54a, 54b, 54c, and 54d, and for a second tree of said hierarchical trees).

Regarding claim 3 Dube teaches the prior art (Shapiro) disclosing well-known arithmetic coding of the values and tree indications (col. 3, lines 5-12).

Regarding claim 4, Dube teaches said value is a sign bit (col. 12, lines 30-32).

Regarding claim 5, Dube teaches the prior art (Shapiro) disclosing said tree indication is a zerotree root (col. 2, lines 43-48).

#### ***Contact Information***

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anh Hong Do whose telephone number is (703) 308-6720.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-4700 or 4750.

The fax phone number for this Group is (703) 872-9314.

October 21, 2002.

A handwritten signature in black ink, appearing to be "Ms. An Do", written in a cursive style.